

WHAT IS CLAIMED IS:

1. A functional implant comprising a magnetized material.
2. The functional implant according to claim 1, wherein said material comprises a ferromagnetic material.
3. A functional implant comprising a superparamagnetic material.
4. The functional implant according to claims 1 or 2, wherein the implant includes a shape memory material.
5. The functional implant according to claim 2, wherein the ferromagnetic material comprises a superelastic ferromagnetic material that is selected from the group comprising an alloy of: Ni_2MnGa , FePd or FeNiCoTi .
6. The implant according to claims 1 or 3, wherein the functional implant comprises any one of a stent, an artificial heart valve, an orthopedic appliance, a surgical staple, a pacemaker, a pump, a vascular graft, a vascular access device, an artificial tooth, an ostomy device, a breast enlargement prosthesis, a brachiotherapy device, a cochlear implant, a vascular filter, a suture, and a ventriculo-peritoneal shunt.
7. The functional implant according to claims 1 or 3, further comprising a biocompatible coating.
8. The functional implant according to claim 3, wherein the functional implant comprises a matrix of a biocompatible metal and a superparamagnetic material.
9. The functional implant according to claim 3, wherein the functional implant comprises a matrix of a biocompatible polymer and a superparamagnetic material.
10. The functional implant according to claim 3, wherein the functional implant comprises a matrix of a biocompatible ceramic and a superparamagnetic material.

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11. A functional implant comprising a ferromagnetic material magnetized by application of an external magnetic field, wherein the functional implant remains magnetized after removal of the external magnetic field.
12. A functional implant comprising a magnetized ferromagnetic material, wherein the magnetized ferromagnetic material is demagnetized by application of a degaussing device.
13. A system for delivering a medical agent to a functional implant within a target tissue of an organism comprising:

a magnetized functional implant disposed in a target tissue of an organism, the implant having a magnetic field; and

a medical agent carried by a magnetically sensitive carrier, wherein

the carrier is introduced into a blood flow of the organism upstream from the target tissue,

the carrier and medical agent migrate via the blood flow to the target tissue, and

the carrier and medical agent remain substantially localized around the implant as a result of the magnetic field.

14. A system of delivering a medicinal agent to a functional implant comprising:

a ferromagnetic functional implant positioned in a target tissue of an organism;

magnetizing means for magnetizing the implant and producing a localized magnetic field surrounding the implant, wherein the implant remains magnetized after removal of the magnetizing means; and

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introducing means for introducing a medical agent via a magnetically sensitive carrier into a blood flow of the organism upstream from the target tissue, wherein the carrier and medical agent migrate via the blood flow to the target tissue and remain substantially localized around the target tissue as a result of the magnetic field.

15. The system according to claim 14, further comprising a demagnetizing means for demagnetizing the implant.
16. The system according to claim 15, wherein said demagnetizing means comprises a degaussing device.
17. A system for delivering a medical agent to a functional implant comprising:
 - a functional implant comprising a super-paramagnetic material;
 - means for generating a magnetic field through the super-paramagnetic material;
 - a medical agent ferried by a magnetically-sensitive carrier.
18. A method of delivering a medical agent to a functional implant comprising:
 - disposing a magnetized functional implant within a target tissue of an organism, the magnetized implant producing a magnetic field; and
 - introducing a medical agent via a magnetically sensitive carrier into a blood flow of the organism upstream from the target tissue, wherein the carrier migrates via the blood flow to the target tissue and wherein the medical agent remains substantially localized as a result of the magnetic field.
19. A method of delivering a medical agent to a functional implant, the implant comprising a ferromagnetic material, the method comprising:

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disposing the implant within a target tissue of an organism;

magnetizing the implant to create a magnetic field surrounding the implant;

introducing a medical agent via a magnetically sensitive carrier into a blood flow of the organism upstream from the target tissue, wherein the carrier migrates via the blood flow to the target tissue and remains substantially localized at the target tissue as a result of the magnetic field.

20. A method of delivering a medical agent to a functional implant, the implant comprising a ferromagnetic material, the method comprising:

disposing the implant within a target tissue of an organism;

magnetizing the implant to create a magnetic field surrounding the implant;

introducing a medical agent via a magnetically sensitive carrier into a blood flow of the organism upstream from the target tissue, wherein the carrier migrates via the blood flow to the target tissue and remains substantially localized at the target tissue as a result of the magnetic field; and

de-magnetizing the implant so that the carrier is released from the target tissue.

21. The method according to claim 18, 19 or 20, wherein the magnetically sensitive carrier is introduced intravenously, intra-arterially, orally, intramuscularly, and/or transmucosally.

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